



**DATE: May 13, 2022**  
**AD #: 2022-11-51**

Emergency Airworthiness Directive (AD) 2022-11-51 is sent to owners and operators of Embraer S.A. (Type Certificate previously held by Yaborã Indústria Aeronáutica S.A.; Embraer S.A.) Model ERJ 170-200 STD, ERJ 170-200 LR, ERJ 170-200 SU, and ERJ 170-200 LL airplanes.

### **Background**

The Agência Nacional de Aviação Civil (ANAC) has issued Emergency AD 2022-05-02, effective May 13, 2022 (ANAC Emergency AD 2022-05-02) (also referred to after this as the Mandatory Continuing Airworthiness Information, or the MCAI), to correct the unsafe condition for certain Embraer S.A. (Type Certificate previously held by Yaborã Indústria Aeronáutica S.A.; Embraer S.A.) Model ERJ 170-200 STD, ERJ 170-200 LR, ERJ 170-200 SU, and ERJ 170-200 LL airplanes.

This emergency AD was prompted by a report of an in-flight detachment of a right-hand wing tip. Subsequently it was determined that cracks could develop on the wing tip connection area that can affect its structural integrity to the point of an in-flight detachment. This condition, if not addressed, even if the airplane maintains sufficient controllability for a safe continuation of the flight, could result in the detached part damaging other airplane parts and affecting controllability, as well as damaging property and injuring persons on the ground. See the MCAI for additional background information.

### **Related Service Information**

ANAC Emergency AD 2022-05-02 specifies procedures for a detailed inspection for cracks of the affected wing tip connections, corrective action including rework or replacement of spar 1, and revision of the existing maintenance or inspection program to include a revised threshold and interval for a certain airworthiness limitations task. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

### **FAA's Determination**

This product has been approved by the aviation authority of another country, and is approved for operation in the United States. Pursuant to the FAA's bilateral agreement with the State of Design Authority, the FAA has been notified of the unsafe condition described in the MCAI referenced above. The FAA is issuing this AD because the FAA evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

## **AD Requirements**

This AD requires accomplishing the actions specified in ANAC Emergency AD 2022-05-02 described previously, except for any differences identified as exceptions in the regulatory text of this AD and except as discussed under “Difference Between this AD and the MCAI.”

## **Difference Between This AD and the MCAI**

This AD requires all operators to revise the existing maintenance or inspection program, as applicable, to include a reduced threshold and interval for a certain airworthiness limitations task. The MCAI does not require this action for airplanes with less than 7,500 flight hours after installation of an affected part number.

## **Interim Action**

The FAA considers this AD interim action. The inspection reports that are required by this AD will enable the manufacturer to obtain better insight into the nature, cause, and extent of the cracking, and eventually to develop final action to address the unsafe condition. Once final action has been identified, the FAA might consider further rulemaking.

## **Paperwork Reduction Act**

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB control number. The control number for the collection of information required by this AD is 2120-0056. All reporting associated with this AD is mandatory. Comments concerning the accuracy of this burden and suggestions for reducing the burden should be directed to Information Collection Clearance Officer, Federal Aviation Administration, 10101 Hillwood Parkway, Fort Worth, TX 76177-1524.

## **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA’s authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency’s authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

## **Presentation of the Actual AD**

The FAA is issuing this AD under 49 U.S.C. Section 44701 according to the authority delegated to me by the Administrator.

**2022-11-51 Embraer S.A. (Type Certificate Previously Held by Yaborã Indústria Aeronáutica S.A.; Embraer S.A.):** Project Identifier MCAI-2022-00638-T.

**(a) Effective Date**

This Emergency Airworthiness Directive (AD) is effective upon receipt.

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to Embraer S.A. (Type Certificate previously held by Yaborã Indústria Aeronáutica S.A.; Embraer S.A.) Model ERJ 170-200 STD, ERJ 170-200 LR, ERJ 170-200 SU, and ERJ 170-200 LL airplanes, certificated in any category, as identified in Agência Nacional de Aviação Civil (ANAC) Emergency AD 2022-05-02, effective May 13, 2022 (ANAC Emergency AD 2022-05-02).

**(d) Subject**

Air Transport Association (ATA) of America Code 57, Wing structure.

**(e) Unsafe Condition**

This AD was prompted by a report of an in-flight detachment of a right-hand wing tip. Subsequently it was determined that cracks could develop on the wing tip connection area that can affect its structural integrity to the point of an in-flight detachment. The FAA is issuing this AD to address this condition, which, even if the airplane maintains sufficient controllability for a safe continuation of the flight, could result in the detached part damaging other airplane parts and affecting controllability, as well as damaging property and injuring persons on the ground.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Requirements**

Except as specified in paragraph (h) of this AD: Comply with all required actions and compliance times specified in, and in accordance with, ANAC Emergency AD 2022-05-02.

**(h) Exceptions to ANAC Emergency AD 2022-05-02**

(1) Where ANAC Emergency AD 2022-05-02 refers to its effective date, this AD requires using the date of receipt of this AD.

(2) For the first column heading of table 1 – “Compliance Times” of ANAC Emergency AD 2022-05-02, replace “Flight Hours (FH) accumulated from installation of affected PN” with “Flight Hours (FH) accumulated from installation of affected PN as of the date of receipt of this (FAA) AD.”

(3) Where table 1 – “Compliance Times” of ANAC Emergency AD 2022-05-02 specifies flight hours of “19,800 or greater,” for this AD use flight hours of “19,800 or greater.”

(4) Where paragraphs (a)(i) and (a)(ii) of ANAC Emergency AD 2022-05-02 specify correcting “discrepancies,” this AD defines a discrepancy as a crack.

(5) The inspections and corrective actions specified in paragraphs (a)(i) and (a)(ii) of ANAC Emergency AD 2022-05-02 must be done using the service information specified in paragraphs (a)(i) and (a)(ii) of ANAC Emergency AD 2022-05-02.

(6) Where paragraph (a)(iii) of ANAC Emergency AD 2022-05-02 specifies to “Modify task 57-30-002-0002 of the Airworthiness Limitations Section, on MRB 1621, APPENDIX A - PART 2 - AIRWORTHINESS LIMITATION INSPECTIONS (ALI) – STRUCTURES, to revise its compliance interval” at the times in table 1 – “Compliance Times” of ANAC Emergency AD 2022-05-02, this AD requires revising the existing maintenance or inspection program, as applicable, within 30 days after the date of receipt of this AD to incorporate the information specified in table 2 – “Airworthiness Limitations Section Updates” of ANAC Emergency AD 2022-05-02; except do not include the information in the “Current Threshold / Interval” column. The initial compliance time for the airworthiness limitations task is within 1,000 flight hours after accomplishment of the tasks specified in paragraphs (a)(i) and (a)(ii) of ANAC Emergency AD 2022-05-02; except, for airplanes that have accumulated 7,499 flight hours or less from installation of an affected part number, as defined in ANAC Emergency AD 2022-05-02, the initial compliance time is before the accumulation of 10,000 flight hours from installation of the affected part number.

(7) Paragraph (b) of ANAC Emergency AD 2022-05-02 specifies to report crack findings to Embraer and ANAC within a certain compliance time. For this AD, report crack findings at the applicable time specified in paragraph (h)(7)(i) or (ii) of this AD.

(i) If the inspection was done on or after receipt of this AD: Submit the report within 36 hours after accomplishment of the inspection.

(ii) If the inspection was done before receipt of this AD: Submit the report within 36 hours after receipt of this AD.

(8) The “Alternative method of compliance (AMOC)” section of ANAC Emergency AD 2022-05-02 does not apply to this AD.

#### **(i) Other FAA AD Provisions**

The following provisions also apply to this AD:

(1) *Alternative Methods of Compliance (AMOCs)*: The Manager, Large Aircraft Section, International Validation Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or responsible Flight Standards Office, as appropriate. If sending information directly to the Large Aircraft Section, International Validation Branch, send it to the attention of the person identified in paragraph (j) of this AD. Information may be emailed to: 9-AVS-AIR-730-AMOC@faa.gov. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the responsible Flight Standards Office.

(2) *Contacting the Manufacturer*: For any requirement in this AD to obtain instructions from a manufacturer, the instructions must be accomplished using a method approved by the Manager, Large Aircraft Section, International Validation Branch, FAA; or the Agência Nacional de Aviação Civil (ANAC); or ANAC’s authorized Designee. If approved by the ANAC Designee, the approval must include the Designee’s authorized signature.

**(j) Related Information**

For further information about this AD, contact Krista Greer, Aerospace Engineer, Large Aircraft Section, FAA, International Validation Branch, 2200 South 216th St., Des Moines, WA 98198; telephone 206-231-3221; email [Krista.Greer@faa.gov](mailto:Krista.Greer@faa.gov).

Issued on May 13, 2022.

Ross Landes, Deputy Director for Regulatory Operations,  
Compliance & Airworthiness Division,  
Aircraft Certification Service.